DOCUMENT RESUME

ED 354 248 TM 019 461

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TITLE The Difference in Achievement between Home Schooled and Public Schooled Students for Grades Four, Seven, and Ten in Arkansas.
PUB DATE Nov 92
NOTE 9p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (21st, Knoxville, TN, November 11-13, 1992).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Academic Achievement; Comparative Testing; *Elementary School Students; Elementary Secondary Education; Grade 4; Grade 7; Grade 10; *High School Students; *Home Schooling; Language Tests; Mathematics Tests; Nontraditional Education; *Public Schools; Reading Tests; Science Tests; Scores; Social Studies; *Standardized Tests
IDENTIFIERS *Arkansas; MAT 6

ABSTRACT

Arkansas law requires that each student aged 7 through 16 years in a home school program be tested annually using a nationally recognized standardized test chosen by the students' parents from a list of tests approved by the state. Achievement for home schooled and public schooled students in Arkansas was compared for grades 4, 7, and 10 using 6 subscales of the MAT-6. Responses of 428 home schooled and 89,314 public schooled students were used. Home schooled students scored higher than their counterparts in reading, mathematics, language, total basic battery, science, and social studies at grade 4 and grade 7. They also scored significantly above public school means for grade 10 in reading, mathematics, total basic battery, science, and social studies, but scored significantly lower in language. Three appendixes present detailed comparisons in three tables. (SLD)

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THE DIFFERENCE IN ACHIEVEMENT BETWEEN HOME SCHOOLED AND PUBLIC SCHOOLED STUDENTS FOR GRADES FOUR, SEVEN, AND TEN IN ARKANSAS

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INTRODUCTION

It is estimated that nationally, there are from 248,500 to 353,500 school aged children being taught at home, including 3,140 in Arkansas. Home schooling can be defined as the educational alternative in which parents assume primary responsibility for the education of their children (Lines, 1991). Increasing numbers of children are meeting state compulsory education requirements at home rather than at school. Although home instruction was once the main stay of frontier American education, some educators now regard the practice as suspect (Lines, 1986).

Brian Ray (1988), synthesized eleven studies discovering that on the average, home schooling families are larger, slightly wealthier, better educated, and attend church more often than those in the general population. He also found both parents figuring prominently in home instruction process with the mother acting as primary teacher.

Of all the home schooling issues, undoubtedly the one receiving the most publicity centers on the academic achievement of home schooled youth. Academic knowledge, customarily measured by achievement tests, usually signifies educators' "bottom line" in judging teacher proficiency, new programs, and curriculum materials. As many states require home school practitioners to administer achievement tests each spring, these measures, too, are relied upon almost exclusively by researchers in evaluating home school academic outcomes (Schmidt, 1989).

Arkansas law requires each student enrolled in a home school program who is seven years through sixteen years of age on May 1 of each school year, to be tested by May 1, using a nationally recognized standardized achievement test chosen by the parents from a list of test provided by the State Board of Education.

Evidently, there has been little research in Arkansas to document the academic quality of home education.

RATIONALE

The academic experience of any child is vitally important. Sacken (1988) suggested that the belief that education is the foremost responsibility of government contributes to the misunderstanding concerning home schooling. Home schooling parents, too, desire the best education possible for their children, but have chosen a nontraditional mode to perform this function (Williams, Arnoldsen, and Reynolds, 1984). In order to ascertain the quality of education which the home schooled child receives, governmental agencies and parents may wish to find evidence that home schooled children receive education at least comparable to that of the public schools.

Some studies have sought to describe home schooled children's academic performance in states such as Alabama (Rakestraw, 1987), Alaska (Greene, 1987), Washington, West Virginia, Oregon, Tennessee, North Carolina, Idaho, and Colorado. No such studies have been found in Arkansas though. Yet, Arkansas may represent an appropriate location in some areas for home schooling because the hill regions present traveling difficulties for many students. There appears to be a number of political and educational policy concerns that may facilitate more informed educational decisions by studying academic achievement of home schooled students.

STATEMENT OF THE PROBLEM

The problem of this study was to compare the difference in achievement between home schooled and public schooled students for grades four, seven, and ten in Arkansas. It was hypothesized that no significant difference would exist in achievement means between the two groups. As a means of structuring the problem, answers were sought to the following questions:

1. Is there a significant difference in achievement means for each of the six subscales of the MAT 6 for grade level four between home schooled and public schooled students?
2. Is there a significant difference in achievement means for each of the six subscales of the MAT 6 for grade level seven between home schooled and public schooled students?

3. Is there a significant difference in achievement means for each of the six subscales of the MAT 6 for grade level ten between home schooled and public schooled students?

COLLECTION OF DATA

This study sought to analyze MAT 6 results of home schooled students grades four, seven, and ten. The study drew from responses of 428 home schooled and 89,314 public school students. National percentile rank means for each of the six subscales for reading, mathematics, language, basic battery, science, and social studies were used from the MAT 6 given in the Spring of 1991 to both groups.

TREATMENT OF DATA

The "t" test was used to compare the means of home schooled students with the means of the larger state public school students by grade level to determine if they were significantly different. No further analysis could be conducted because the State Department of Education in Arkansas could not release the individual score results.

RESULTS

Three questions were considered in this study. Each question is stated and a summary of the results of the analysis of data is discussed.

Question 1 asked, "Is there a significant difference in achievement means for each of the six subscales of the MAT 6 for grade level four between home schooled and public schooled students?" Home schooled students scored significantly higher than the Arkansas public schooled means in the areas of Reading, Mathematics, Language, Total Basic Battery, Science, and Social Studies.

Question 2 asked, "Is there a significant difference in achievement means for each of the six subscales of the MAT 6 for grade level seven between home schooled and public schooled students?" Home schooled students

scored significantly higher than the Arkansas public schooled means in the areas of Reading, Mathematics, Language, Total Basic Battery, science, and Social Studies.

Question 3 asked, "Is there a significant difference in achievement means for each of the six subscales of the MAT 6 for grade level ten between home schooled and public schooled students?" The tenth grade home schooled means were significantly higher in Reading, Mathematics, Total Basic Battery, Science, and Social Studies, yet scored significantly lower in Language.

CONCLUSION

Results indicated that fourth and seventh grade home schooled children scored significantly higher than the public school means in Reading, Mathematics, Language, Total Basic Battery, Science and Social Studies. Tenth grade home schooled students scored significantly higher than the public schooled means in Reading, Mathematics, Total Basic Battery, Science, and Social Studies, yet scored significantly lower in Language. Thus, the average Arkansas home schooled student shows signs of academic achievement better than the average Arkansas public schooled student as measured by the six subscales of the MAT 6.

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APPENDIX A

STATISTICAL TABLES

Comparison of academic achievement between public schooled (group 1) and home schooled (group 2) students in grade four.

SUBTEST	GROUP 1	GROUP 2
Reading	61	80
Math	69	77
Language	64	68
Total Battery	65	78
Science	67	86
Social Studies	67	81
Mean	65.50	78.33
Standard Deviation	2.81	5.96
T-value	4.7735	
One-tailed Significance	0.0004	
Point-Biserial Correlation	0.8337	

APPENDIX B

STATISTICAL TABLES

Comparison of academic achievement between public schooled (group 1) and home schooled (group 2) students in grade seven.

SUBTEST	GROUP 1	GROUP 2
Reading	54	74
Math	59	67
Language	61	65
Total Battery	60	71
Science	62	76
Social Studies	61	70
Mean	59.50	70.50
Standard Deviation	2.88	4.14
T-value	5.3463	
One-tailed Significance	0.0002	
Point-Biserial Correlation	0.8607	

APPENDIX C

STATISTICAL TABLES

Comparison of academic achievement between public schooled (group 1) and home schooled (group 2) students in grade 10.

SUBTEST	GROUP 1	GROUP 2
Reading	52	72
Math	54	67
Language	61	58
Total Battery	57	67
Science	59	66
Social Studies	55	66
Mean	56.33	65.57
Standard Deviation	3.33	4.28
T-value	4.2867	
One-tailed Significance	0.0006	
Point-Biserial Correlation	0.7909	